

Improvements!

**City Responds Positively To
Recommendations Made In Our 1996 Report:
Ratio of Staff to Managers in City Government**

October 17, 1997

Office of City Auditor

Improvements!

City Responds Positively To Recommendations Made In Our 1996 Report: Ratio of Staff to Managers in City Government

October 17, 1997

Project Manager: Lori Pang

City Auditor: Nora Masters
Deputy City Auditor: Susan Cohen

Auditors: Solomon Alemayehu
David Jones
Bruce Kinnamen
Eileen Norton
Julie So-Kwon
Jerry Stein
Erin Volz

City of Seattle

1100 Municipal Building
Seattle, Washington, 98104-1876



Printed on Recycled Paper

Executive Summary

Purpose

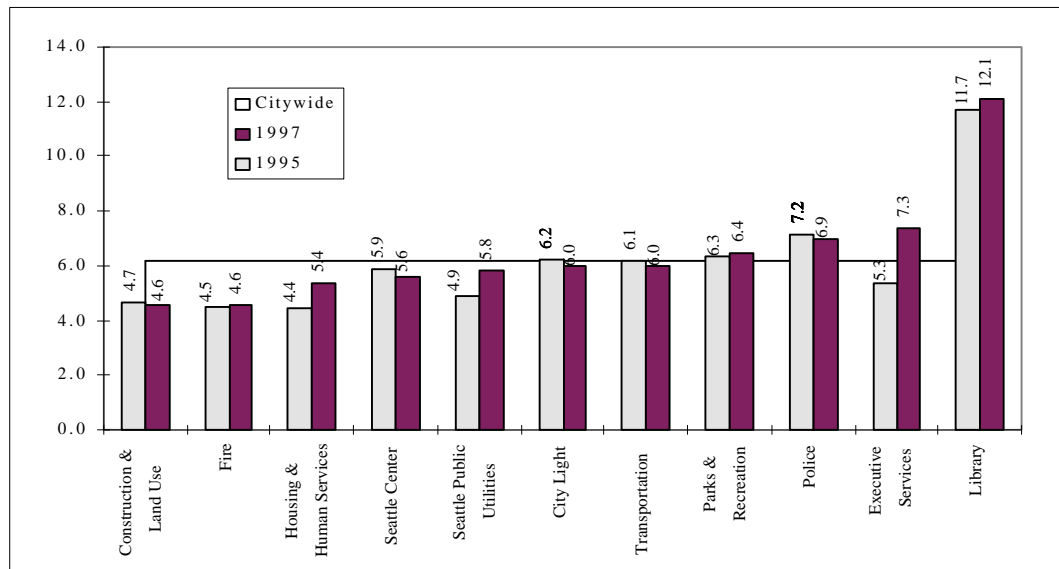
In our on-going series, **Improvements!**, we report on the status of all open audit recommendations. This report assesses the City's progress in implementing the recommendations from our report, "*The Ratio of Staff to Managers in City Government*," January 25, 1996.

The ratio of staff to managers influences the way organizations delegate tasks and perform work. Because most organizational structures evolve over time, many organizations can substantially increase their efficiency and effectiveness by systematically and thoughtfully redesigning their structures. We wrote our 1996 report to help City managers and City policymakers start to evaluate the City's organizational structures.

Results of Our Review

Seattle has improved its ratio of staff to managers. Seattle's overall average ratio of staff to managers has risen from 5.9 to 6.1 since 1995 -- a three percent increase in the average number of staff reporting to a manager. This has allowed Seattle to realize significant savings, estimated at roughly \$3.1 million.

Figure 1: Departments' Average Ratio of Staff to Managers Using the Total Number of Staff Excluding Temporary and Intermittent Staff¹



¹ Seattle Public Library, Seattle Center, Department of Parks and Recreation, and the Department of Housing and Human Services all hire large numbers of temporary, intermittent and/or part-time staff. By not counting these staff, Figure 1 understates their average ratio of staff to managers.

As seen in Figure 1, the City's current ratio of staff to managers ranges from 4.6 at the Department of Construction and Land Use and the Fire Department to 12.1 at Seattle Public Library. Several departments have improved their ratios, specifically Executive Services, Housing and Human Services, and Seattle Public Utilities. Several other departments, however, have actually had the number of managers to staff actually increase slightly. The City has also reduced the number of supervisors who supervise three or fewer employees by nearly 14 percent -- from 533 to 457.

Consistent with our audit recommendations, the Personnel Division is moving in the direction of more progressive personnel policies. In particular, the Personnel Division has designed new and more flexible classification and compensation systems, trained all City managers/supervisors in corrective actions and disciplinary actions, and made layoff-order policies more flexible by recognizing employees with special skills.

The Office of Management and Planning, in line with our 1995 recommendation, is working to provide efficiency incentives through the budget process by rewarding departments for cost-saving personnel actions and requiring them to face the costs of personnel actions which result in higher compensation.

Table of Contents

PURPOSE.....	1
PAST AUDIT RECOMMENDATIONS	1
CONSOLIDATION OF FIVE CITY DEPARTMENTS	2
SCOPE AND METHODOLOGY	2
RESULTS OF OUR REVIEW	4
Seattle's Ratio of Staff to Managers Has Increased Over the Last Two Years.....	4
◆ <i>Departmental Savings Suggest Potential for Further Gains from Reviewing and Broadening Ratios of Staff to Managers.....</i>	4
◆ <i>Actions of Some Departments Have Increased the City's Overall Ratio of Staff to Managers from 5.9 to 6.1, While Others Have Slightly Narrowed Their Ratio During the Last Two Years</i>	5
Personnel Division Moving Toward More Progressive Personnel Policies	10
◆ <i>More Flexible Classification and Compensation Systems for City's Executives, Managers and Strategic Advisors</i>	10
◆ <i>Management Trained in New Corrective Action and Progressive Discipline Processes</i>	12
◆ <i>Layoff Policy Now Recognizes Special Skills.....</i>	12
OMP Addressing Audit Recommendations	13
CONCLUSIONS.....	14
ADDENDA	
A. General Information on the Ratio of Staff to Managers and Layers of Management.....	19
B. Definitions for Words Used in This Report.....	25
C. 1995 Ratio of Staff to Managers Calculations --Three New City Departments.....	26
D. Data Collection, Editing, and Methodology for Calculations.....	27
E. Personnel's Span of Control Worksheet	28
F. The Number of Lead Workers Has Dropped Dramatically	32
G. Personnel and the Office of Management and Planning's Response to Our Audit Report.....	33
H. Office of City Auditor's Report Evaluation Form	35

PURPOSE

In our on-going series, Improvements!, we report on the status of all open audit recommendations. This report assesses the City's progress in implementing the recommendations from our report, "*The Ratio of Staff to Managers in City Government*," January 25, 1996.

"Span of control" and "layers of management" are terms which describe how an organization is managed. Span of control or ratio of staff to managers refers to the number of subordinates who report to a manager. The ratio of staff to managers and the number of layers of management together determine the way organizations delegate tasks to units and sub-units. Because most organizational structures evolve over time, many organizations can substantially increase their efficiency and effectiveness by systematically and thoughtfully redesigning their structure. No ideal structure fits all organizations, and management experts agree that determining the appropriate number of staff per manager must include careful understanding of the balance between the purposes and characteristics of a particular organization. However, management experts also believe higher ratios of staff to managers are more efficient than lower ratios. See Addendum A for more information on ratio of staff to managers and layers of management.

PAST AUDIT RECOMMENDATIONS

On January 25, 1996, the Office of City Auditor published *The Ratio of Staff to Managers in City Government*. This study reported that Seattle's ratio of 5.9 staff per manager was lower than those found in recent studies of other public and private organizations. To raise this ratio, the study recommended that:

- each department review management positions and identify which functions may benefit from increasing the ratio of staff to managers;
- the Personnel Department continue work on progressive personnel policies; including (1) improved and fully competitive classification and compensation system, including salary guidelines reflecting the amount of supervisory work a working supervisor actually performs, (2) more effective performance

evaluation and discipline processes, and (3) a more flexible layoff order; and

- the Office of Management and Planning continue to adjust the budget process to reward departments for cost-saving personnel actions and to require them to face the costs of personnel actions which result in higher compensation.

CONSOLIDATION OF FIVE CITY DEPARTMENTS

In January 1997, the City reorganized by consolidating five departments into three. The new organizations are:

- The Transportation Department - To emphasize transportation issues, the City created a Transportation Department from the Engineering Department's Transportation Division.
- Seattle Public Utilities - This new department consolidated the Water Department with the remainder of the Engineering Department, as well as some functions from City Light's Customer Call Center and Construction Management.
- The Executive Services Department - This new department brings together the departments of Administrative Services, Finance, and Personnel and some functions from City Light (Graphics, Video Services and Print Shop).

SCOPE AND METHODOLOGY

As a result of department reorganizations, the twelve departments in our original study have become eleven in this follow-up report (one of the five departments involved in the reorganization -- Personnel -- was not included in our original study). The eleven departments are

- City Light;
- Construction and Land Use;
- Executive Services Department²;
- Fire;
- Housing and Human Services;

² The numbers and figures for the Executive Services Department does not include its Personnel Division since the Personnel Department was not included in our original study. Thus the numbers for the Executive Service Department in this report only includes those of the original Administrative Services and Finance Departments.

-
- Parks and Recreation;
 - Police;
 - Seattle Center;
 - Seattle Public Library;
 - Seattle Public Utilities; and
 - Transportation.

In comparing 1995 ratio of staff to managers with 1997 spans for the purpose of this follow-up report, we based the 1995 ratio of staff to managers for these departments on the calculations we made for their component divisions in our first report. The 1997 spans of control are based on departments' organizational structures provided to us in January and changes made through July 1997. In comparing "before" and "after" spans of control for the Executive Services Department, we did not include spans for the Personnel Division. Addendum C provides more specific information on how we estimated the "original" spans for these new departments.

This report uses the same methodology as our original report. To calculate 1997 spans of control, we asked each department to update the organizational charts used in our original report. We used these organizational charts to count the number of supervisors and lead staff and permanent employees. Except as noted otherwise, we have defined span of control as the ratio of permanent employees (including lead supervisors) to permanent management staff. Addendum D provides a more detailed account of our methodology. In 1997, the departments in our study employed 9,763 permanent full- and part-time staff compared to 9,624 in 1995.

In preparing this report, we discussed the status of our original recommendations with key staff in the Personnel Division and the Office of Management and Planning.

This special review followed all relevant general auditing standards.

RESULTS OF OUR REVIEW

Seattle's Ratio of Staff to Managers Has Increased Over the Last Two Years

The savings of roughly \$3.1 million, which several City departments have achieved³ for the 1997-98 biennium from increasing or simply analyzing their ratio of staff to managers, suggests the potential for further gains from similar efforts in other departments. Departmental actions have increased the City's overall ratio of staff to managers by roughly three percent since 1995. Within the overall City average, however, several departments now have a lower ratio of staff to managers than previously.

Departmental Savings Suggest Potential for Further Gains from Reviewing and Broadening Ratios of Staff to Managers

Savings thus far suggest the City gains significantly from departments' reviewing and increasing their average ratio of staff to managers. Since our 1995 report, three departments that improved their average ratio of staff to managers estimate a biennial savings of roughly \$2.3 million. These savings came from reassigning employees and from eliminating, downgrading, reclassifying, consolidating, and redefining positions. Several other departments reported biennial savings of \$800,000 from similar actions as a result of analyzing their spans of control, even though other factors led to overall decreases in the average ratio of staff to managers.

Management experts generally advocate a ratio of staff to managers higher than Seattle's ratio of 6.1⁴ -- often considerably higher (see Addendum A, section on Contemporary Thinking Advocates Broadening Ratios and Reducing Layers). Although, no ideal ratio of staff to managers fits all organizations or organizational units, a ratio of staff to managers which is too low is both expensive and inefficient. Paying for unneeded supervisors wastes scarce City resources, and the more layers between the individual who does the work and the individual who actually directs the work, the more likely that the layers will act as an impediment to the communication flow between the two. Therefore, while we would expect to see significant variations in average ratio of staff to managers

³ Based on departments' estimate of their 1997-98 savings.

⁴ Seattle's 6.1 ratio of staff to managers is better than the ratio of 6.0 that we found in Portland, Oregon in our 1995 report. However, this is still lower than King County, which has a ratio of 8.9 and a study of private companies that report a median ratio of staff to managers of 8.8.

among and within City departments because of differences in their work, we would, nevertheless, strongly recommend that departments continue to look for opportunities to broaden their average ratio of staff to managers.

Actions of Some Departments Have Increased the City's Overall Ratio of Staff to Managers from 5.9 to 6.1, While Others Have Slightly Narrowed Their Ratio During the Last Two Years

The overall ratio of staff to managers for the departments in our study increased from 5.9 to 6.1, or roughly three percent, from 1995 to 1997. Led by Executive Services, Seattle Public Utilities and Housing and Human Services, six departments contributed to this overall increase by broadening their departmental ratio of staff to managers. For five City departments the average ratio of staff to managers has slightly narrowed since we measured two years ago: City Light, Police, Seattle Center⁵, Construction and Land Use, and Transportation.

Increases:

- Executive Services - This department increased its ratio of staff to managers from 5.3 to 7.3, (roughly a 37 percent increase of staff to managers) -- providing leadership by example to the other departments.
- Housing and Human Services - This department increased its ratio from 4.4 to 5.4, (approximately a 23 percent increase of staff to managers).⁶ The increase resulted from the department's reviewing its organizational structure to ensure that each organizational reports to the appropriate supervisor and to identify supervisory positions which are no longer needed. The department used an assessment process which the Personnel Division developed for City-wide use to identify potential staffing changes.
- Seattle Public Utilities - Seattle Public Utilities has increased its average ratio of staff to managers from 4.9 to 5.8 (roughly an 18 percent increase in staff to managers). In broadening its spans of control, the

⁵ Seattle Public Library, Seattle Center, Department of Parks and Recreation, and the Department of Housing and Human Services all hire large numbers of temporary, intermittent and/or part-time staff. By not counting these staff, as shown in Figure 3 understates their average ratio of staff to managers. Another method is to count these temporary, intermittent and or part-time staff in terms of full-time equivalents, see figure 4.

⁶ Using full-time equivalents to include this department's many temporary and intermittent staff would show a change in the Department's average span of control from 6.0 to 7.9, or 32 percent. Refer to Figure 4.

Utility reduced the number of supervisors by 20 while adding several transferred positions from City Light.⁷

- Library - The Library has increased its ratio of staff to managers from 11.7 to 12.1,⁸ (about a three percent increase of staff to managers), by eliminating one supervisory position even while increasing the number of permanent employees by 10.
- Parks and Recreation - Parks has increased its overall ratio of staff to managers from 6.3 to 6.4,⁹ (about a two percent increase of staff to managers), by changing its organization structure to eliminate supervisory positions and redefine supervisory relationships.
- Fire - The Fire Department has increased its average ratio of staff to managers from 4.5 to 4.6, (about a two percent increase of staff to managers), by improving its organizational structure.

Decreases:

- Transportation - This department's average ratio of staff to managers slightly decreased from 6.1 to 6.0, (less than a two percent decrease in staff to managers). This decrease resulted from the department reducing the number of employees by 35 and the number of supervisors by 4.
- Construction and Land Use - This department slightly narrowed its average ratio of staff to managers over the last two years from 4.7 to 4.6 (or a two percent decrease in staff to managers). It has reduced the number of employees by seven and still has the same number of supervisors.
- City Light - City Light has narrowed its average ratio of

⁷ For more information of the consolidation, see report section "Consolidation of Five City Departments on page 2.

⁸ This figure includes the Library's many part-time staff. Basing the Library's span of control on full-time equivalent employees would show a change in average span of control from 7.7 to 7.9, or three percent. Refer to Figure 4.

⁹ Using full-time equivalents to include this department's many temporary and intermittent staff would show a change in the Department's average span of control from 6.7 to 7.0, or four percent. Refer to Figure 4.

staff to managers from 6.1¹⁰ to 6.0 (or a three percent decrease in staff to managers). The Department increased the number of supervisors by 5 while reducing the total number of permanent employees by 44.

- Police - Since our last report, the Department's average ratio of staff to managers has decreased from 7.2 to 6.9, (or roughly a four percent decrease of staff to managers). The Department's span of control is still above the current City-wide average of 6.1. The Department increased the number of supervisors by 6 as part of the new Alternative Shift program which increases the number of officers on the street due to overlapping shifts. They also reduced the total number of permanent employees by 15.
- Seattle Center - Since our last report, Seattle Center has decreased its average ratio of staff to managers from 5.9 to 5.6¹¹, (or about a five percent decrease in staff to managers).¹² Seattle Center reduced the total number of permanent employees by 22 but the number of supervisors by only one.

Both the Office of Management and Planning and the Personnel Division assisted the departments in broadening their spans of control. In developing the 1997-1998 budget, the Office of Management and Planning directed all City departments to review their management structures and report ways to improve the efficiency of their organizations. In performing these reviews, departments rated management workload according to a span of control worksheet which the Personnel Division developed for their use. Addendum E provides a copy of this worksheet. As a result of these reviews and the consolidating of five departments into three, 61 positions were impacted. City departments eliminated or downgraded 25 positions, reclassified 2, consolidated 12, and redefined 14; they also reassigned 8 employees.

¹⁰ We revised City Light's 1995 span of control figure to reflect the positions that were transferred to the Seattle Public Utilities and the Executive Services departments in 1997. The report section "Consolidation of Five City Departments" on page 2 discusses the transfer.

¹¹ including the many temporary and intermittent staff Seattle Center uses for events, this would increase this span from 5.6 to 10.4.

¹² Using full-time equivalents to include this department's many temporary and intermittent staff would show a change in the Department's average ratio of staff to managers from 6.9 to 6.3, or nine percent. Refer to Figure 4.

In broadening its overall ratio of staff to managers, City departments have reduced the number of managers who supervise three or fewer employees by nearly 14 percent -- from 533 to 457. The Department of Executive Services and Seattle Public Utilities accounted for most of this reduction (75 percent). Roughly 29 percent (457 managers who supervise three or fewer employees divided by 1,590 City managers in our study) of Seattle's managers, however, still supervise three or fewer employees. Figure 2 shows the number of managers with spans less than three.

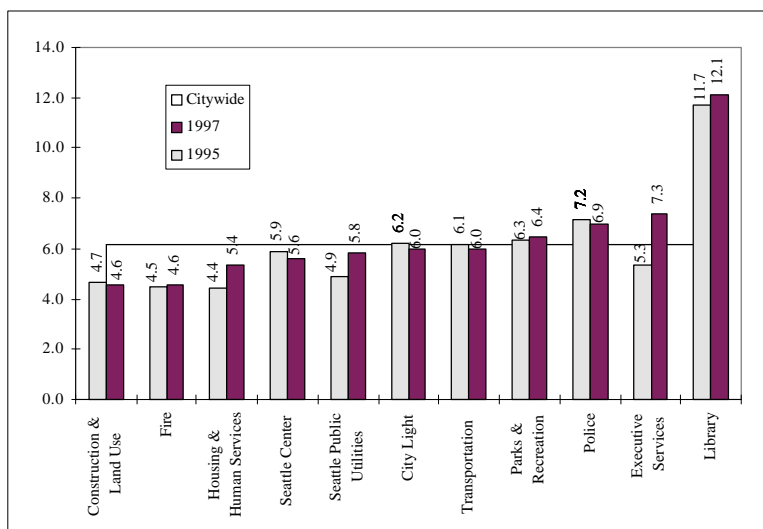
Figure 2: Number of Managers with Spans Less than Three

Department	1995 Span Ranges				1997 Span Ranges			
	>0-1	>1-2	>2-3	Total	>0-1	>1-2	>2-3	Total
Construction & Land Use	8	1	9	18	8	3	9	20
Executive Services	13	19	20	52	7	6	8	21
Fire	10	10	68	88	8	7	67	82
Housing & Human Services	10	12	7	29	2	8	12	22
Library	3	5	3	11	5	4	0	9
Parks	15	15	21	51	25	7	20	52
Police	8	16	26	50	8	21	20	49
Seattle Center	6	4	5	15	7	2	6	15
Seattle City Light	14	41	36	91	12	26	46	84
Seattle Public Utilities	21	42	34	97	34	18	19	71
Transportation	6	10	15	31	5	12	15	32
City Total	114	175	244	533	121	114	222	457

As Figure 3 shows, the 1997 spans of individual departments in our study now range from 4.6 (the Fire Department and the Department of Construction and Land Use) to 12.1 (Library). This range is slightly higher than in our 1995 data (4.4 to 11.7) and continues to reflect the wide variety of organizational patterns within City departments, in which different services and functions require differing levels of supervision. Only four departments are above the City average: Library, Executive Services, Police and Parks.

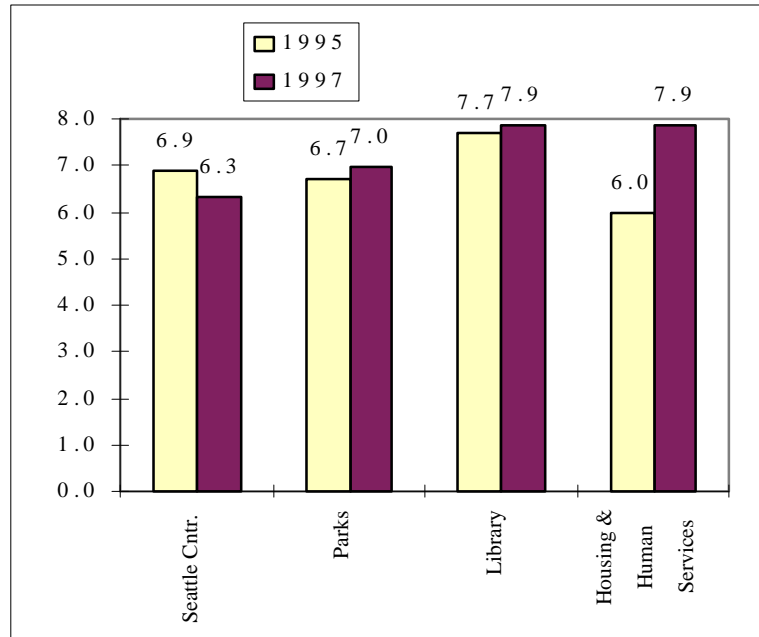
Figure 3: Departments' Average Ratio of Staff to Manager Using the Total Number of Staff Excluding Temporary and Intermittent Staff

¹³ Using full-time equivalents instead of the number of staff means that four quarter-time staff would be counted as one full-time equivalent (rather than zero or four). This holds true whether the quarter-time staff work 10 hours/week all year or 40 hours/week for three months.



Seattle Center, the Department of Parks and Recreation, and the Department of Housing and Human Services hire large numbers of temporary and intermittent staff. By not counting these staff, Figure 3 understates their average spans of control. On the other hand, simply counting these staff as if they were permanent employees would substantially overstate the spans of control of these departments. Another method is probably to count these temporary and intermittent staff in terms of full-time equivalents,¹³ as we do in Figure 4. As Figure 4 shows, when we calculate staff in terms of full-time equivalents, only Housing and Human Services has significantly improved the ratio of staff to managers while Seattle Center has decreased its ratio.

Figure 4: Average Ratio of Staff to Managers For Full-Time Equivalents Including Temporary and Intermittent Staff



Likewise, the Library hires many part-time employees. These part-time employees increase the Library's average ratio of staff to managers in Figure 3. By calculating full-time equivalents instead of counting part-time employees as if they were full-time employees, Figure 4 reduces the Library's average ratio of staff to managers closer to the Citywide average.

City departments other than the four above have too few part-time, temporary or intermittent employees to make any material difference in their average ratio of staff to managers using this analysis.

Personnel Division Moving Toward More Progressive Personnel Policies

Consistent with our audit recommendations, the Personnel Division is moving toward more progressive personnel policies. In particular, the Personnel Division¹⁴ has designed three new classification and compensation systems, is training all City managers/supervisors in corrective actions and disciplinary actions, and made layoff-order policies more flexible by recognizing employees with special skills.

More Flexible Classification and Compensation Systems for City's

The Personnel Division has designed three new

¹⁴ with assistance from a consultant and an interdepartmental committee

*Executives, Managers and
Strategic Advisors*

classification and compensation systems for the City's executives, managers, and strategic advisors. Strategic advisors are highly-placed, non-managerial employees who provide expert program and policy advice to senior officials. The Personnel Division has hosted a series of brown bag informational sessions for affected employees and is in the process of providing feedback from those sessions to elected officials. The Division is also developing an implementation plan that will address some of the issues the employees raised. The new system will consist of four market-linked pay ranges for executives and three market-linked pay ranges for managers and strategic advisors. These ranges will result in a net reduction of over 160 ordinance titles from the present system.

The new classification and compensation system should reduce the pressure to create supervisory roles for "strategic advisors." Unlike the present system, the system would compensate these employees at the level of managers or supervisors without requiring a preponderance of managerial or supervisory duties to justify their higher salaries. As a result, the new system should help broaden spans of control, streamline organizational structure, and make employee direction and lines of communication more effective. This system would also give department directors greater flexibility in revising the duties (including supervisory responsibilities) of individual executives, managers, and strategic advisors.

According to officials of the Personnel Division, the proposed system increases hiring authorities' discretion to change an employee's job "size," including the amount of supervisory duties performed, and to set compensation levels. The new system would add a performance component to compensation to reflect how well executives and managers perform their duties. Individuals under this system would receive no cost of living increases and have no guarantee of any compensation above and beyond their "base salary."¹⁵ Any compensation beyond base salary would come as a result of the hiring authority's evaluation of their performance over the previous year. According to the Office of Management and Planning, this system would not affect the overall budget because it pools the salaries

¹⁵ For new hires, the base salary would be the initial salary; for present employees at start-up of the new system, the base salary would be a salary set by the hiring authority.

and annual cost of living increases from individual managers and executives and caps this pooled amount. The system is under refinement for City Council review.

***Management Trained in New
Corrective Action and Progressive
Discipline Processes***

During 1996, the Personnel Division, with the assistance of the Law Department and employee unions, provided all City managers and supervisors mandatory training on new corrective action and discipline processes. New supervisors now receive this training as part of their initial orientation, along with training in the City's new performance evaluation process. The Personnel Division also made available to managers an optional form for conducting performance evaluations in the expectation that enhanced communication of job performance evaluations will make it possible to supervise more staff effectively.

This training resulted from the City's 1995 revising of its corrective action process and progressive discipline process. The revised corrective action process addresses performance problems or minor acts of misconduct by other than disciplinary means. It relies on supervisors and subordinates to work together to find the means for correcting performance and behavior problems before they become chronic or severe. The progressive discipline process is for major disciplinary offenses. It follows the traditional form of discipline, progressing as needed to increasingly more severe disciplinary actions. The ability to take effective corrective action and appropriate disciplinary action is essential if managers are to supervise broader spans of control.

***Layoff Policy Now Recognizes
Special Skills***

In August 1996, the Personnel Division issued guidelines explaining exceptions to the seniority rule for layoffs for employees with special skills, abilities or qualifications critical to the City. When changing needs result in the elimination of positions, incumbents can generally "bump" less senior employees in identical or closely related job classes. An exception to this normal order of layoffs may be requested if a less-senior employee has responsibilities which a more senior employee will not be able to perform after six months of training. Seniority, however, remains the general rule for layoffs. In addition, if exceptions are made, union contracts require the Personnel Division to negotiate acceptable alternatives or settlements with

employees whom the exception causes to be laid off. Although not used to date, the ability to lay off employees out of normal order because of special skills potentially improves the City's ability to preserve critical expertise as needs change.

OMP Addressing Audit Recommendations

The Office of Management and Planning (OMP), in line with our 1995 recommendation, is working to provide efficiency incentives through the budget process by rewarding departments for cost-saving personnel actions and requiring them to face the costs of personnel actions which result in higher compensation.

OMP encourages downward reclassifications by allowing the department to take full credit in the budget process for abrogating and creating a position. In this process a department eliminates a higher-paid (often supervisory) position and creates a new lower-paid (often non-supervisory) position in its place. In this situation, OMP allows the department to use the savings it gains from this process toward required cuts in the department's proposed budget. According to an OMP official, OMP will continue to encourage departments to review their ratio of staff to managers and look for such opportunities to make reductions that do not negatively impact service and liberate resources for other City needs.

In addition to abrogating one position and creating another in its place, departments have the option of simply reclassifying a position (generally an occupied one) to a lower level. This kind of reclassification assumes that the duties of the position have slowly changed over time. When a department reclassifies an occupied position to a lower level, the incumbent's salary does not receive cost-of-living adjustments and stays at its current level until inflation brings it in line with the lower position's proper salary. It, therefore, may take several years for a department to realize the savings from downgrading a position to a lower level.

In January 1996, OMP issued policies on reclassification funding which make departments more accountable when they reclassify lower paid (generally non-supervisory) positions into higher-paid (generally supervisory) positions. OMP does not automatically recommend additional budget

authority and funding for such upward reclassifications but generally expects departments to find savings to fund them. It may, however, fund upward reclassifications related to major reorganizations and new programs.¹⁶

CONCLUSIONS

The City has made progress in implementing our three 1995 recommendations:

Recommendation to Departments. Several departments estimate biennial savings of roughly \$3.1 million from broadening or simply analyzing their spans of control. Through the efforts of six departments, the City of Seattle has increased its average ratio of staff to managers from 5.9 to 6.1. Three departments have made significant strides in improving their ratio of staff to managers -- Executive Services, Housing and Human Services, and Seattle Public Utilities while other departments have decreased their ratio of staff to managers. The City has also reduced the number of supervisors who supervise three or fewer employees by 14 percent. We believe the City can make more improvements by further analyzing the ratio of staff to managers and hence we will continue to report on this issue in the future.

Recommendations to the Personnel Department. In addition to assisting departments in assessing the ratio of staff to managers, the Personnel Division has designed a new classification and compensation system which will allow "strategic advisors" to receive competitive compensation without having to supervise. This should reduce the pressure on departments to create supervisory positions for these key employees and thereby help broaden average spans of control. The Personnel Division has also designed new and much more flexible classification and compensation systems for executives and managers. In addition, to assist managers in supervising larger staffs, the Personnel Division provided all managers with training in new performance evaluation, corrective action, and discipline processes. Finally, the Personnel Division revised layoff policy to permit the Personnel Director to create

¹⁶ Other exceptions include the few remaining upward reclassifications related to the Class Project, reclassifications following specific negotiated labor settlements, and rare salary changes due to labor settlements and to equity adjustments approved by the Personnel Division. The City began the Class Project about ten years ago to review the classification of civilian non-management positions. It has just recently been completed.

exceptions to the seniority-based layoff policy in instances where employees have skills critical to the City. Personnel has done a good job of addressing this audit. However, the Executive still has to follow through to ensure that Personnel's work is fully integrated into the City. Hence, we will continue to track this issue in the future.

Recommendations to the Office of Management and Planning. The Office of Management and Planning has encouraged departments to broaden their average ratio of staff to managers through the budget process. Also, OMP actions have rewarded certain departmental downward reclassifications by allowing the departments to receive full credit for them toward mandatory cuts in their budgets. In addition, OMP is not automatically funding upward reclassifications, but instead generally expects departments to find savings elsewhere to fund them. The Office of Management and Planning has fully addressed the audit recommendation and we will close it out of the audit recommendation tracking system.

ADDENDA

A. General Information on Ratio of Staff to Managers and Layers of Management.....	19
B. Definitions for Words Used in This Report	25
C. 1995 Ratio of Staff to Managers Calculations -- Three New City Departments	26
D. Data Collection, Editing, and Methodology for Calculations.....	27
E. Personnel's Span of Control Worksheet	28
F. The Number of Lead Workers Has Dropped Dramatically	32
G. Personnel and the Office of Management and Planning's Response to Our Audit Report...	33
H. Office of City Auditor's Report Evaluation Form	35

This Page Intentionally Left Blank

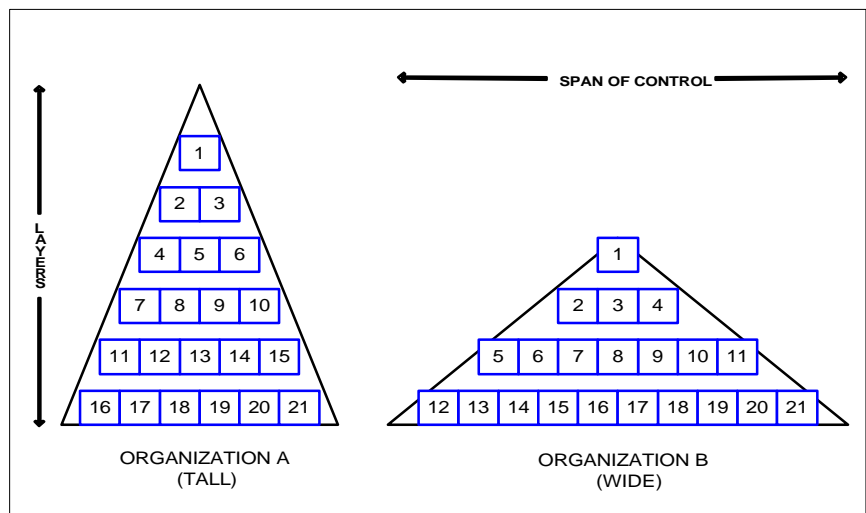
General Information on Span of Control and Layers of Management

Background

“Span of control” and “layers of management” are terms which describe how an organization is managed. Span of control or ratio of staff to managers refers to the number of subordinates which report to a manager. For organizations, the average span of control is the ratio of all employees to management staff. The count of layers of management in an organization is the maximum number of layers of management in that organization. Flat organizations have broad spans and few layers. Tall organizations have narrow spans and more layers. See Addendum B for the definition of terms used in this report.

As seen in Figure 5, organizations are described as “tall” when few employees report to each manager, and there are many management layers, and “flat” when many employees report to each manager and there are only a few management layers.

Figure 5



Taller organizations disperse decision authority among successive layers of management, increasing the time it takes to make service decisions. Flat organizations focus decision-making authority and move it down the hierarchy into units which provide services directly to customers. This allows faster, more customer-oriented decision-making. Other advantages of flat organizations mentioned by management literature include:

General Information on Span of Control and Layers of Management

- Lower management costs
- Greater employee satisfaction and motivation
- More opportunities for development of employee skills
- Greater management focus on planning and goals
- Less duplication of tasks, roles and responsibilities
- Less micro-management and faster decision making
- Clearer communication between bottom and top layers
- Less paperwork due to fewer reporting requirements
- Decreased need for management-support staff
- Fewer planning and coordination meetings

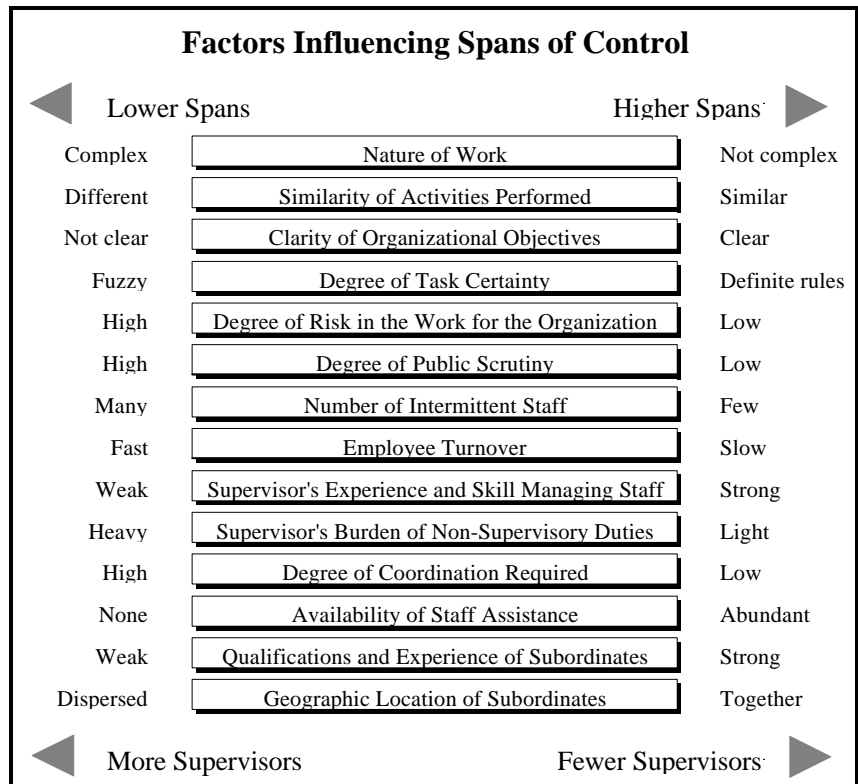
The Ratio of Staff to Managers Depends on Work Tasks and Circumstances

Spans that are too wide and spans that are too narrow both have drawbacks. Too few staff per manager diminishes an organization's effectiveness because it does not fully utilize the talents of its higher paid managers, who could manage more staff. It also does not fully utilize the service level staff who could assume more responsibility. However, too many staff per manager also diminishes an organization's effectiveness because managers are overburdened, and subordinates are left without sufficient coaching, training, or direction.

Leading management theorists agree that the most appropriate ratio of staff to managers can only be determined by carefully evaluating and balancing the particular purposes and characteristics of an organizational unit. Figure 6 summarizes some common task and situation characteristics which help determine the number of subordinates reporting to a manager.

General Information on Span of Control and Layers of Management

Figure 6¹⁷



Special circumstances may require a ratio of staff to managers independent of inherent task characteristics. Examples of these influences on the ratio of staff to managers include:

- Multiple Work Shifts - Some City functions must be staffed more than eight hours per day but do not require a large staff. This creates a low staff-to-manager ratio.
- Expert Supervisors - Highly specialized tasks require expert supervision. For example, Seattle's Treasury Investment Officer supervises one employee. This function needs to be coordinated by an expert in the investment area, but workload requires only a total of two staff.
- Legal Considerations - Grant-funded programs may require specific organizational structures, and labor union contracts may require the presence of supervisors for a specific number of staff.

¹⁷ This figure is adapted from the City of Portland Audit Services Division's Span of Control Study, 1994, p. II-3.

General Information on Span of Control and Layers of Management

Contemporary Thinking Advocates Broadening Spans and Reducing Layers

While they agree that the appropriate number of staff per manager varies greatly among different organizations and even among different units and functions within the same organization, most contemporary management experts advocate spans of control higher than Seattle's span of 6.1. Advocates of broadening spans of control include:

Peter Drucker, who believes that too few staff to managers leads to the "deformation of management: levels upon levels" and that more staff per manager and fewer management layers lead to improved management and organizational performance.

James O'Toole, professor at the University of Southern California, whose study of spans of control showed an average of 10 staff per manager. He concluded that American workers are over-supervised.

Edward Lawler, author of The Ultimate Advantage, who states that organizations should never have less than 15 staff per manager, and should usually have more.

Tom Peters, who recommends that high-performance organizations operate with a minimum of 25 workers for each manager and a maximum of five layers.

President Bill Clinton, who directed the federal government to double spans of control to 14 staff per manager.

The National Commission on State and Local Public Service, which recommended decreasing the ratio of managers to staff and flattening the bureaucracy to increase accountability, save money, and shift personnel to the front line.

Seattle Has Fewer Staff per Manager Than Other Organizations That Have Completed Span of Control Studies

The following section is being reprinted as we reported it in our 1996 report, Ratio of Staff to Managers in City Government.

In comparison to Seattle's average span of control of 5.9 (management staff only) and 4.4 (leads as management), other organizations report higher spans:

- A study of spans of control and layers of hierarchy in the government of King County, Washington,¹⁸ which included

¹⁸ King County Audit Office, 1994. This study based span calculations on personnel.

General Information on Span of Control and Layers of Management

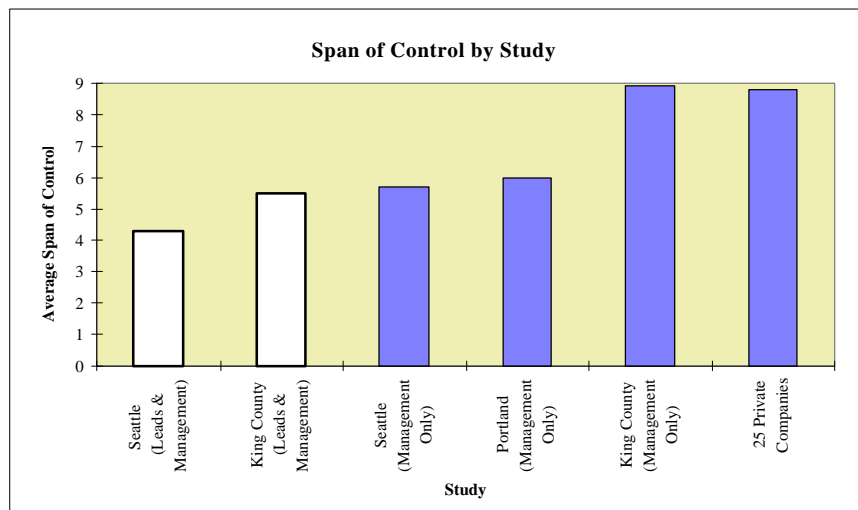
6,768 employees in 14 executive branch departments found a span of control of 8.9 (no leads), or 5.5 (with leads).

- A study of spans of control and layers of management in the municipal government of Portland, Oregon,¹⁹ which included 4,953 full-time equivalent positions, reported an average span of control of 6.0. Portland only has a few leads, and the study did not count them as managers. Portland's management workload, represented by its span of control average of 6.0, is significantly greater than Seattle's span of control average of 5.9 when recognizing that Portland has very few lead workers and 6 percent of Seattle's employees are lead workers.
- A study of spans of control and layers of management in private companies²⁰ found a median span of control of 8.8. Spans found in this study range between 2.3 and 83.4 with clusters around 5-6, 10-12, and the mid-20's.

Because each of these studies applied different methodologies, we adjusted their findings to make them consistent with the methodology we used for our report.

Figure 7 summarizes these comparative findings:

Figure 7²¹



¹⁹ Audit Office of the City of Portland, 1994. This study based span calculations on FTEs.

²⁰ The Conference Board (a global business membership organization), 1993. This study based span calculations on personnel.

²¹ The King County Auditor considered leads as a layer of management because of their supervisory roles. According to this methodology, the "Leads as Managers" column in Figure 11 most accurately reflects the King County average span of control.

General Information on Span of Control and Layers of Management

While the study of private companies reports more staff per manager than we found in the public entities, these numbers may be understated or overstated. We could not determine how the private study handled the issue of leads (if any), nor do we know how comparable the private organizations are to the City's departments.

Our sample did not provide enough information on layers of management to produce fruitful comparisons with Seattle.

Definitions for Words Used in This Report

Span of Control The number of subordinate staff reporting directly to one manager. These subordinates may be either managers or line staff. An organization's average span of control is the average of the span of control of each of the management staff in the organization. This technique recognizes that supervisors are staff in one layer and are supervisors in the next.

Managers and Management All supervisory employees, including department heads, managers and supervisors at all levels, including line supervisors.

Layers of Management The maximum number of people including the chief executive through which a line staff employee must report in order to reach the chief executive of an organization. In our calculations of layers of management in Seattle, we considered the Mayor as Layer 1, and did not count line staff as a layer. For example, an organization with the following layers of management would have 4 levels of management:

1. Mayor
2. Director
3. Manager
4. Supervisor
5. Line Staff

We paid close attention to this definition in developing comparisons with other organizations, since this term can have several meanings.

Supervisor A person who allocates work assignments, instructs subordinates in the work they will perform (either directly or by enforcement of well-established rules), evaluates work based on results, and works with subordinates to improve performance. This person may also serve as a technical expert and in a trouble-shooting role. The key criterion for being a supervisor is having the responsibility of performing formal performance evaluations.

Lead Worker A person who, in addition to regular duties, performs some supervisory functions (such as assigning work, instructing, and checking work) but who is not responsible for formally evaluating the performance of subordinates. Depending on the circumstances, leads are or are not counted as managers.

Supervisory Unit A single organizational unit consisting of one supervisor and the subordinate staff which report directly to her or him.

1995 Ratio of Staff to Managers Calculations -- Three New City Departments

New Seattle Public Utilities Department					
Department	All Personnel	Supervisors	Leads	Span	Span -L
Engineering Department	1,066	205	130	5.2	3.18
Less Transportation Division	(541)	(88)	(83)	6.14	3.16
Water Department	625	119	83	5.24	3.09
Total	1,150	236	130	4.87	3.14

New Executive Services Department					
Department	All Personnel	Supervisors	Leads	Span	Span -L
Personnel ²²	N/A	N/A	N/A	N/A	N/A
Finance Department	190	33	5	5.73	4.97
Department of Administrative Services	469	90	32	5.20	3.84
Total	659	123	37	5.35	4.11

New Transportation Department					
Department	All Personnel	Supervisors	Leads	Span	Span -L
Transportation Division	541	88	83	6.14	3.16

Span - Average ratio of staff to managers counting leads as employees.

Span-L - Average ratio of staff to managers counting leads as managers.

²² Personnel was not included in our last report so we do not have historical information on this Division.

Data Collection, Editing, and Methodology for Calculations

To prepare this study, we first used existing organizational charts to develop spreadsheets detailing organizational structures. City departments then reviewed and revised our spreadsheets, noting lead workers on them. We systematically edited the organizational charts in the following ways to standardize calculations:

- We eliminated temporary and intermittent positions.
- We considered employees with management job titles but no directly reporting subordinates as non-management staff.
- Where it was not clear which employees were directed by workers marked as leads, we did not count these lead workers as leads.

Following this editing process, counts of lead, supervisory, and line staff were made. We used these counts to calculate spans of control. We did not use counts of full time equivalent (FTE) employees in these calculations for several reasons:

- The difference between FTEs and actual personnel was 2 percent or less for most departments. For the four departments where the difference between number of personnel and number of FTEs exceeds two percent, we discuss the differences in the text. Refer to Figure 4.
- Few supervisors were part-time staff. This means that the variance between personnel and FTEs would effect the numerator of the ratio of staff to managers calculation more than the denominator, and the difference between a personnel-based ratio of staff to managers and an FTE-based span would be small.
- Audit staff decided that the number of people supervised was more relevant in determining the workload of a supervisor than the total FTE supervised.

Methodological Exceptions

An exception was made in the calculation methodology for the Engineering Department, because lead responsibilities in Engineering street crews depend on work site. For example, Asphalt Rakers are leads until the crew reaches a job site. On the job site, Truck Drivers are leads. So as not to overemphasize the role of leads, we did not count both Truck Drivers and other staff such as Asphalt Rakers as leads on Engineering Department crews. This reduced the number of Engineering Department leads by 61 (32 percent). This change has no effect on the ratio of staff to managers calculated with leads as non-management staff, but raises the span from 2.7 to 3.2 when counting leads as management staff.

Personnel's Span of Control Worksheet

--

Personnel's Span of Control Worksheet

--

Personnel's Span of Control Worksheet

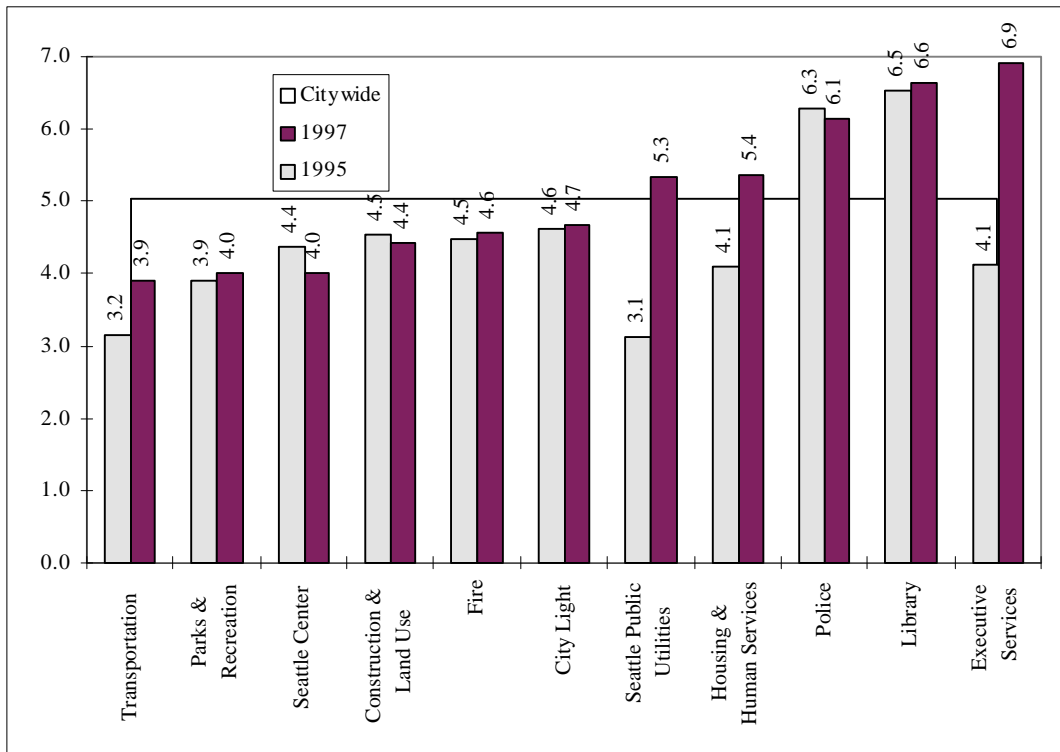
Personnel's Span of Control Worksheet

--

The Number of Lead Workers Has Dropped Dramatically

In 1997, City departments identified 352 lead workers,²³ down over 36 percent from our 1995 data. This dramatic decrease caused the City's average ratio of staff to managers when counting lead staff as managers to broaden from 4.4 to 5.0, or approximately 14 percent. Figure 8 shows the average ratio of staff to managers for each department when including leads as managers.

Figure 8: Departments' Ratio of Staff to Managers Counting Leads as Management²⁴



These spans ranged from a 3.9 (Transportation) to 6.9 (Executive Services). Eight of the departments increased their average spans of control when counting leads as managers: Fire, Transportation, Housing and Human Services, City Light, Parks, Seattle Public Utilities, Library, and Executive Services.

²³ Lead workers are employees who regularly assign, instruct and check the work of others as a significant part of responsibilities. The element that distinguishes lead staff from supervisors is that leads do not formally evaluate their performance of the staff they help supervise. They also provide supervision of other employees when a supervisor is absent.

²⁴ Seattle Public Library, Seattle Center, Department of Parks and Recreation, and the Department of Housing and Human Services all hire large numbers of temporary, intermittent and/or part-time staff. By not counting these staff, Figure 8 understates their average ratio of staff to managers. Another method is to count these temporary, intermittent and or part-time staff in terms of full-time equivalents, see figure 4.

Personnel and the Office of Management and Planning's Response to Our Audit Report

--

Personnel and the Office of Management and Planning's Response to Our Audit Report

Office of City Auditor's Report Evaluation Form



Office of City Auditor Report Evaluation Form

**FAX...WRITE...CALL...DROP BY...
HELP US SERVE THE CITY BETTER**

Our mission at the Office of City Auditor is to help assist the City in achieving honest, efficient management and full accountability throughout the City government. We service the public interest by providing the Mayor, the City Council and City managers with accurate information, unbiased analysis, and objective recommendations on how best to use public resources in support of the well-being of the citizens of Seattle.

Your feedback helps us do a better job. If you could please take a few minutes to fill out the following information for us, it will help us assess and improve our work.

* * * * *

Report: **Improvements! City Responds Positively to Recommendations Made in Our 1996 Report: Ratio of Staff to Mangers in City Government**

Please rate the following elements of this report by checking the appropriate box:

	Too Little	Just Right	Too Much
Background Information			
Details			
Length of Report			
Clarity of Writing			
Potential Impact			

Suggestions for our report format: _____

Suggestions for future studies: _____

Other comments, thoughts, ideas: _____

Name (Optional): _____

Thanks for taking the time to help us.

Fax: (206) 684-8587

Mail: Office of City Auditor, 1100 Municipal Building, Seattle, WA 98104-1876

Call: Nora Masters, City Auditor, (206) 233-0088

E-Mail: nora.masters@ci.seattle.wa.us

Drop by and visit: 10th Floor of the Municipal Building